

CLAIMS:

1. Apparatus for analysing statistical characteristics of an input signal, the apparatus comprising:
 - a signal input for receiving the signal;
 - 5 means coupled to the input for detecting events at which the signal level crosses a predetermined level with a predetermined slope;
 - means for combining multiple versions of the signal, the versions being shifted with respect to each other by amounts corresponding to the spacing of said events, to form a representation of the signal; and
 - 10 means for measuring a parameter dependent upon the shape of said representation and indicative of a statistical characteristic of said signal.
2. Apparatus as claimed in claim 1, arranged such that signals are deemed to have a predetermined slope if the slope has a predetermined sign.
3. Apparatus as claimed in claim 1 or claim 2, the apparatus
15 being arranged to form a first representation in response to detected events of a first predetermined slope, and a second representation in response to detected events of a second different predetermined slope.
4. Apparatus as claimed in claim 3, wherein the parameter is dependent upon the shape of the combined first and second representations.
- 20 5. Apparatus as claimed in any preceding claim, wherein the event detecting means is operable to detect first and second different types of events, and the combining means is operable to combine versions of the signal shifted by amounts corresponding to the first type of events in a predetermined manner with versions of the signal shifted with respect to each
25 other by amounts corresponding to the spacing of the second type of events to form said representation.
6. Apparatus as claimed in claim 5, including mode switching means operable to change said predetermined manner of combination.
7. Apparatus as claimed in any preceding claim, wherein said
30 predetermined level is substantially different from the average level of the signal.

8. Apparatus as claimed in any preceding claim, including crossing level input means for receiving a signal defining said predetermined level.

5 9. An integrated circuit including apparatus as claimed in any preceding claim, a first input terminal for receiving said input signal, a second input terminal for receiving a threshold signal representing said predetermined level, and at least one output terminal for providing an output signal forming said representation.

10 10. A method of analysing an input signal, the method comprising detecting events at which the signal level crosses a predetermined level with a predetermined slope, and forming a representation of a combination of multiple versions of the signal, the versions being shifted with respect to each other by amounts corresponding to the spacing of the events, the method further including the step of measuring a parameter dependent upon the shape
15 of the representation.

11. A method according to claim 10, wherein the parameter is indicative of the degree of resemblance between said shape and the shape of a stored representation.